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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,884	04/17/2002	Yvette Lienart	USB 98 BC CNR PHY/cdm-kb	8604
466	7590	10/22/2003	EXAMINER MCINTOSH III, TRAVISS C	
YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			ART UNIT 1623	
			PAPER NUMBER	
			1623	
			DATE MAILED: 10/22/2003	

Please find below and/or attached an Office communication concerning this application or proceeding.

File copy

**Office Action Summary**

Application No.

10/018,884

Applicant(s)

LIENART ET AL.

Examiner

Traviss C McIntosh

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 July 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 19-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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### **DETAILED ACTION**

The Amendment filed July 18, 2003 has been received, entered into the record, and carefully considered. The following information provided in the amendment affects the instant application by:

Claims 1-18 have been canceled.

Claims 19-26 have been added.

Remarks drawn to rejections of Office Action mailed April 18, 2003 include:

Drawing objection: which has been overcome by applicant's amendments and has been withdrawn.

An action on the merits of claims 19-26 is contained herein below. The text of those sections of Title 35, US Code which are not included in this action can be found in a prior Office action.

#### ***Claim Rejections - 35 USC § 112***

Claims 19-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 19 is drawn to "a phytosanitary method comprising applying to plants a composition comprising...". It is unclear as to exactly what method applicant is intending. Standard practice for method claims is for the claim to be drafted such that the claim clearly sets forth the method to be practiced, such as "a method of treating plants infected with a fungal

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disease comprising the steps...". The recitation of "a phytosanitary method comprising..." does not clearly set forth that which applicant intends as their invention.

Claim 20 is drawn to "a biofertilizing method comprising applying to plants a composition containing...". It is unclear as to exactly what method applicant is intending. Standard practice for method claims is for the claim to be drafted such that the claim clearly sets forth the method to be practiced, such as "a method of treating plants infected with a fungal disease comprising the steps...". The recitation of "a biofertilizing method comprising..." does not clearly set forth that which applicant intends as their invention.

Claims 23 and 24 are drawn to compositions comprising a glycuronic oligosaccharide. It is noted that the claims as drafted do not read on compositions, but on compounds as a composition comprising only 1 agent is not a composition, but a compound. A composition containing a single component is incomplete. The essential element missing is the second component of the composition. Correction is respectfully requested. Such correction should involve the recitation of a second component which finds clear support in the original disclosure.

### ***Claim Rejections - 35 USC § 102/103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Applicant's remarks in the amendment filed July 18, 2003 stating that "new claims 19-22 are accordingly drawn to phytosanitary and biofertilizing methods, reciting the subject matter of claims 16 and 18, which were not rejected as to merit and so are assumed to be free from the prior art" are noted. However, the office action mailed April 18, 2003 did not address claim 18 in the art rejections as the claim was rejected under 112 2<sup>nd</sup> paragraph as being indefinite wherein the claim was drawn to a product, i.e., a biofertilizer, but depended from claim 11, which was a use/method claim and it was unclear how the product limitations of claim 18 patentably effected the method/use claims from which it depended. Additionally, claim 16 was rejected under 35

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U.S.C. 102(b) as being anticipated by Adachi et al. (US Patent 4,993,185), under 35

U.S.C. 102(b) as being anticipated by Kaisha (JP 4335839), under 35 U.S.C. 102(b) as being anticipated by Adachi et al. (US Patent 5,588,254), and under 35 U.S.C. 102(e) as being anticipated by Nakanishi et al. (US Patent 5,952,308).

Claims 19-22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Adachi et al. (US Patent 5,588,254).

Claim 19 is drawn to a method of treating plants (a phytosanitary method) comprising applying to the plant a composition comprising a 1,4- $\beta$ -D-glucuronan with a DP of 8, a 1,4- $\beta$ -D-mannuronan having a DP of 4, or a 1,4- $\beta$ -D-guluronan with a DP of 4. Claim 20 is drawn to a method of treating plants (a biofertilizing method) comprising applying to the plant a 1,4- $\beta$ -D-mannuronan having a DP of less than about 30. Claim 21 limits the DP of the 1,4- $\beta$ -D-mannuronan to 2-15 and claim 22 limits the DP of the 1,4- $\beta$ -D-mannuronan to 4.

Adachi et al. disclose alginic acid oligosaccharides which when hydrolyzed produce an oligosaccharide comprising 2-20 molecules of guluronic acid only (a DP of 2-20), 2-20 molecules of mannuronic acid only (a DP of 2-20), or 2-20 molecules total of the combination of guluronic acid and mannuronic acid (column 2, lines 33-45). The hydrolyzed oligosaccharides of Adachi et al. are taught to be effective as growth accelerators for plants (column 1, lines 8-15). Adachi et al. hydrolyze the alginic acid oligosaccharide in the same manner as applicants, using an enzyme such as alginic acid lyase, and disclose that oligosaccharides with a low DP are produced (having a DP of 2-20). Since the Office does not have the facilities for preparing the claimed materials and comparing them with prior art inventions, the burden is on Applicant to

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show a novel or unobvious difference between the claimed method using the claimed product and the product of the prior art. See *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and *In re Fitzgerald et al.*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). If applicants show that the DP of the various methods is divergent based upon the various methods, the examiner would reject these claims as obvious over the '254 patent as it takes nothing more than routine skill in the art to determine which member of the range taught (oligosaccharides with a DP from 2-20) is optimally effective. Optimization of a known range to determine the most effective DP is standard practice in determining the most effective value of an art recognized range which is known to be effective. It is well established that merely selecting proportions of an art recognized range is not patentable absent a showing of criticality. See *In re Becket*, 33 USPQ 33 (CCPA 1937), and *In re Russell*, 439 F.2d 1228, 169 USPQ 426 (CCPA 1971).

Claims 23-26 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Adachi et al. (US Patent 5,588,254).

Claim 23 is drawn to a composition comprising at least one of: a 1,4- $\beta$ -D-glucuronan with a DP of 8, a 1,4- $\beta$ -D-mannuronan having a DP of 4, or a 1,4- $\beta$ -D-guluronan with a DP of 4. Claim 24 is drawn to a composition comprising a 1,4- $\beta$ -D-mannuronan having a DP of less than about 30. Claim 25 limits the DP of the 1,4- $\beta$ -D-mannuronan to 2-15 and claim 26 limits the DP of the 1,4- $\beta$ -D-mannuronan to 4.

Adachi et al. disclose alginic acid oligosaccharides which when hydrolyzed produce an oligosaccharide composition comprising 2-20 molecules of guluronic acid only (a DP of 2-20), 2-20 molecules of mannuronic acid only (a DP of 2-20), or 2-20 molecules total of the

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combination of guluronic acid and mannuronic acid (column 2, lines 33-45). Adachi et al. hydrolyze the alginic acid oligosaccharide in the same manner as applicants, using an enzyme such as alginic acid lyase, and disclose that oligosaccharides with a low DP are produced (having a DP of 2-20). Since the Office does not have the facilities for preparing the claimed materials and comparing them with prior art inventions, the burden is on Applicant to show a novel or unobvious difference between the claimed method using the claimed product and the product of the prior art. See *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and *In re Fitzgerald et al.*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). If applicants show that the DP of the various methods is divergent based upon the various methods, the examiner would reject these claims as obvious over the '254 patent as it takes nothing more than routine skill in the art to determine which member of the range taught (oligosaccharides with a DP from 2-20) is optimally effective in a particular method. Optimization of a known range to determine the most effective DP is standard practice in determining the most effective value of an art recognized range which is known to be effective. It is well established that merely selecting proportions of an art recognized range is not patentable absent a showing of criticality. See *In re Becket*, 33 USPQ 33 (CCPA 1937), and *In re Russell*, 439 F.2d 1228, 169 USPQ 426 (CCPA 1971).

Claims 19-22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Adachi et al. (US Patent 4,993,185).

Adachi et al. disclose an oligosaccharide derived from alginic acid which comprises 2-20 molecules of guluronic acid only, 2-20 molecules of mannuronic acid only, or 2-20 molecules total of the combination of guluronic acid and mannuronic acid (column 2, lines 1-9) which is



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effective in improving the quality of fruit (abstract). Adachi et al. hydrolyze the alginic acid oligosaccharide in the same manner as applicants, using an enzyme such as alginic acid lyase, and disclose that oligosaccharides with a low DP are produced (having a DP of 2-20). Since the Office does not have the facilities for preparing the claimed materials and comparing them with prior art inventions, the burden is on Applicant to show a novel or unobvious difference between the claimed method using the claimed product and the product of the prior art. See *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and *In re Fitzgerald et al.*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). If applicants show that the DP of the various methods is divergent based upon the various methods, the examiner would reject these claims as obvious over the '185 patent as it takes nothing more than routine skill in the art to determine which member of the range taught (oligosaccharides with a DP from 2-20) is optimally effective. Optimization of a known range to determine the most effective DP is standard practice in determining the most effective value of an art recognized range which is known to be effective. It is well established that merely selecting proportions of an art recognized range is not patentable absent a showing of criticality. See *In re Becket*, 33 USPQ 33 (CCPA 1937), and *In re Russell*, 439 F.2d 1228, 169 USPQ 426 (CCPA 1971).

Claims 23-26 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Adachi et al. (US Patent 4,993,185).

Adachi et al. disclose alginic acid oligosaccharides which when hydrolyzed produce an oligosaccharide composition comprising 2-20 molecules of guluronic acid only (a DP of 2-20), 2-20 molecules of mannuronic acid only (a DP of 2-20), or 2-20 molecules total of the

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combination of guluronic acid and mannuronic acid (column 2, lines 1-52). Adachi et al. hydrolyze the alginic acid oligosaccharide in the same manner as applicants, using an enzyme such as alginic acid lyase, and disclose that oligosaccharides with a low DP are produced (having a DP of 2-20). Since the Office does not have the facilities for preparing the claimed materials and comparing them with prior art inventions, the burden is on Applicant to show a novel or unobvious difference between the claimed method using the claimed product and the product of the prior art. See *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and *In re Fitzgerald et al.*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). If applicants show that the DP of the various methods is divergent based upon the various methods, the examiner would reject these claims as obvious over the '254 patent as it takes nothing more than routine skill in the art to determine which member of the range taught (oligosaccharides with a DP from 2-20) is optimally effective in a particular method. Optimization of a known range to determine the most effective DP is standard practice in determining the most effective value of an art recognized range which is known to be effective. It is well established that merely selecting proportions of an art recognized range is not patentable absent a showing of criticality. See *In re Becket*, 33 USPQ 33 (CCPA 1937), and *In re Russell*, 439 F.2d 1228, 169 USPQ 426 (CCPA 1971).

Claims 20 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Kaisha (JP 4335839).

Kaisha disclose a method of culturing a plant tissue or cell comprising adding an alginic acid oligosaccharide which comprises oligosaccharides with a degree of polymerization of 2-20

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and containing guluronic acid and/or mannuronic acid to a culture medium (abstract) which improves production efficiency of artificial seeds or seedlings of farm gardening crops.

Claims 23-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakanishi et al. (US Patent 5,952,308).

Nakanishi et al. disclose an oligomannuronic acid prepared from alginic acid wherein an oligomannuronic acid fraction with a DP of 4 is obtained (column 3, line 64 – column 4, line 10). The intended use of the composition as set forth in the instant cases composition claims is of no patentable import on the composition as claimed. That is, the intended use of a composition has no patentable import on the composition as claimed.

The disclosures of the above-identified references indeed are seen to anticipate the claims, as set forth supra, of the instant application.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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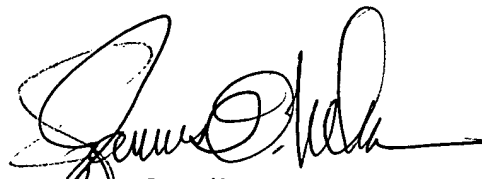
the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Traviss C McIntosh whose telephone number is 703-308-9479. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson can be reached on 703-308-4624. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Traviss C. McIntosh III  
October 15, 2003



James O. Wilson  
Supervisory Patent Examiner  
Art Unit 1623